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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,412	06/01/2001	David C. Banks	112-0030US	2661
29855 7590 01/09/2008 WONG, CABELLO, LUTSCH, RUTHERFORD & BRUCCULERI, L.L.P. 20333 SH 249 SUITE 600 HOUSTON, TX 77070			EXAMINER GREY, CHRISTOPHER P	
			ART UNIT 2616	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/872,412

Applicant(s)

BANKS ET AL.

Examiner

Christopher P. Grey

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 10-14, 20-28 and 31-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7 and 10-14 is/are allowed.
- 6) ☒ Claim(s) 20-22 and 31-45 is/are rejected.
- 7) ☒ Claim(s) 23-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Detailed Action

1. **In view of the appeal brief filed on 9/28/07, prosecution is hereby reopened. A new grounds of rejection is set forth below.**

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 20-22, 31, 35, 39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opsasnick et al. (US 6434145) in view of Burns (US 6665295).

Claim 20 Opsasnick discloses transmitting frames of data from a first switch (fig 4, 140) to a second device (fig 4, 144 and col 8 lines 15-17 and Col 4 lines 20-26) via a plurality of links (fig 1, 160).

Opsasnick discloses a group/trunk (fig 2, 160I.x) of links (page 1 paragraph 0005).

Opsasnick discloses a plurality of first and second ports (fig 1 and 2, 114 and 118, system capable of multiple ports, Col 8 lines 17-28)). First ports are coupled to a first switch and the second ports being coupled to a second switch (fig 1, ports 118 are coupled to switch 144, and ports 114 are coupled to switch 140, where the system is capable of having multiple ports 114 and/or 118).

Opsasnick discloses a pair of transmit and receive ports selected respectively from one of the first ports and from one of the second ports, the transmit port routing frames received at the

first switch across the group to the second switch (fig 1 and 2, ports 114 and 118 are capable of forwarding data to further ports and channels (Col 4 lines 1-67)).

Opsasnick discloses connecting an ATM network to another ATM network (**Col 8 lines 15-17, where it would have been obvious to one of the ordinary skill in the art at the time of the invention that the an ATM switch such as that shown in fig 1 would be applied for each network in the communication of one ATM network to another ATM network**)).

Opsasnick does not explicitly disclose a second switch.

Burns discloses a second switch (**where in fig 1, all devices 32 have a routing and cross connect function equivalent to a switching function**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the communication as disclosed by Opsasnick, so as to replace the MAC with a switching device as disclosed by Burns. The motivation for this modification is to communicate between ATM networks using these switches, particularly for routing functions.

Claim 21 Opsasnick discloses the switch forwarding data packets to one of the egress port queues (fig 2, 210 and associated description) before data packets are forwarded (routed) on the corresponding links (fig 2, 160I.x.).

Opsasnick discloses data packets being evenly distributed among the physical links (parallel data flows, Col 5 lines 17-25).

Claim 22 Opsasnick discloses second queuing logic receiving frames routed across the group according to an order of arrival (Col 5 lines 6-67).

Claim 31 Opsasnick discloses queuing the received frames between the plurality of first ports.

Opsasnick discloses data packets being evenly distributed among the physical links (page 5 paragraph 0061).

Opsasnick discloses transmitting the queued frames between the plurality of first ports to the plurality of second ports so that the frames are received at the plurality of second ports in order as received at the first switch (abstract, Col 4 lines 40-47 and Col 4 lines 59-63).

Opsasnick discloses connecting an ATM network to another ATM network (**Col 8 lines 15-17, where it would have been obvious to one of the ordinary skill in the art at the time of the invention that the an ATM switch such as that shown in fig 1 would be applied for each network in the communication of one ATM network to another ATM network**)).

Opsasnick does not explicitly disclose a second switch. Also, Opsasnick does not specifically disclose receiving frames for transmission to the second switch at the first switch in order.

Burns discloses a second switch (**where in fig 1, all devices 32 have a routing and cross connect function equivalent to a switching function**).

Burns also discloses the switches being connected via a permanent virtual circuit (**see fig 1, PVC's**), where by definition a Virtual circuit communication resembles circuit switching since both are connection oriented, meaning that in both cases data is delivered in correct order (**inherent and known in the art, see any dictionary for further clarification**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the communication as disclosed by Opsasnick, so as to replace the MAC with a switching device as disclosed by Burns. The motivation for this modification is to

communicate between ATM networks using these switches and using PVC for connection which is common within ATM networks, particularly for routing functions.

Claim 35, 39, 42 Opsasnick discloses a first network device having two ports (fig 1 and 2, 114 and Col 8 lines 14-29, multiple ports).

Opsasnick discloses a second network device having two ports (fig 1 and 2, 118 and Col 8 lines 14-29, multiple ports).

Opsasnick discloses two links connecting the two ports of the first network device to the two ports of the second network device (fig 1 and 2, 134).

Opsasnick discloses the first network device including;

Queuing logic for queuing frames to be transmitted to the second network device (fig 2, 210 and see description);

Distribution logic for evenly distributing the queued frames between the two ports (fig 2, block 154 GE and Col 5 lines 17-25).

Opsasnick discloses transmitting logic for transmitting the queued frame.

Opsasnick does not specifically disclose that the frames are received at the two ports of the second network device in order.

Burns also discloses the switches being connected via a permanent virtual circuit (**see fig 1, PVC's**), where by definition a Virtual circuit communication resembles circuit switching since both are connection oriented, meaning that in both cases data is delivered in correct order (**inherent and known in the art, see any dictionary for further clarification**).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the communication as disclosed by Opsasnick, so as to replace the MAC with a switching device as disclosed by Burns. The motivation for this modification is to communicate between ATM networks using these switches and using PVC for connection which is common within ATM networks, particularly for routing functions.

3. Claims 32, 33, 34, 36, 37, 38, 40, 41, 43 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opsasnick et al. (US 6434145) in view of Burns (US 6665295) in further view of Bartow et al. (US 5455831); hereinafter referred to as Bartow.

Claim 32, 36, 40, 43 The combined teachings of Opsasnick and Burns do not specifically disclose determining skew values for the plurality of links, and wherein the transmitting of frames uses the determined skew values to control timing of the transmission of frames.

Bartow discloses determining skew values for the plurality of links, and wherein the transmitting of frames uses the determined skew values to control timing of the transmission of frames (abstract and Col 3 lines 22-31 and Col 14 lines 12-46).

It would have been obvious to one of the ordinary skill in the art at the time of the invention to combine the method of determining skew values and transmitting data based on these values as disclosed by Bartow, within the method of transmitting frames of data from one device to another with in order reception as disclosed by the combined teachings of Opsasnick and Burns. The motivation for this combination is to achieve synchronism for each member of the bus which data is transmitted through (abstract).

Claim 33, 37, 44 The combined teachings of Opsasnick and Burns do not specifically disclose the skew values being one way skew values.

It would have been obvious to one of the ordinary skill in the art at the time of the invention from the rejection of claim 32, that if a skew value can be determined, the skew value may be that of a one-way skew value depending on a designers preference.

Claim 34, 38, 41, 45 Opsasnick discloses operating in a multi-protocol environment (see background and summary).

The combined teachings of Opsasnick and Burns do not specifically disclose the first network device being a fibre channel device.

Bartow discloses optical lines and transmission.

It would have been obvious to one of the ordinary skill in the art at the time of the invention that the optical environment as disclosed by Bartow may be employed within the multi-protocol environment disclosed by the combined teachings of Opsasnick and Burns.

Response to Arguments

4. Applicant's arguments with respect to claims 31 have been considered but are moot in view of the new ground(s) of rejection.

(a) The applicant argued with respect to claim 21 that the cited art does not disclose a first queuing logic so that data received at the ports be routed through the transmit port and across the group.

The examiner maintains that a first queueing logic is disclosed within element 240, fig

2. The applicant argues that that claim requires the order to be queueing logic, transmit port and

group, however the applicant fails to claim that within the claim. The applicant only claims a queuing logic that enables frames that were received at the first ports to be routed through the first ports and across the group. Opsasnick discloses the queuing logic extracting frames from the port and routing them across the group.

(b) The applicant argued with respect to claims 32, 36, 40 and 43 that the references are improper and are purely hindsight.

The examiner maintains that the combination of Opsasnick and Burns discloses two devices in communication using a plurality of links, and the further combination of Bartow, adds to the combined teachings of Opsasnick and Burns, by measuring skew values over a plurality of links being used to communicate between two devices, where these skew values are used in order to to achieve synchronism for each member of the bus which data is transmitted through (abstract). Merely measuring skew values for synchronism is applicable within the environment disclosed by Opsasnick and Burns.

Allowable Subject Matter

5. Claims 1-7 and 10-14 are allowed.
6. Claim 23 (with dependant claims 24, 25, 26, 27, 28) is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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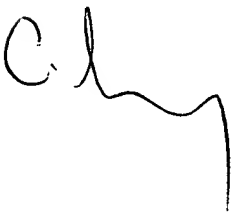
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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on (571)272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Christopher Grey
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